CLAIMS:

1. A pump insert having an inner surface which in use defines a portion of a pump volute, wherein said pump insert is adapted to be coupled with a pump casing by an inter-engaging profiled coupling arrangement.

2. A pump insert as claimed in claim 1, wherein a portion of the pump insert is adapted to be secured against a portion of a pump casing closure element.

3. A pump insert as claimed in claim 1 or 2, wherein the pump insert is adapted to be clamped between the pump casing and a pump casing closure element during assembly of the pump.

4. A pump insert as claimed in claim 1, 2 or 3, wherein the pump insert is adapted to be clamped between a pump liner and a pump casing closure element.

5. A pump insert as claimed in claim 1, 2, 3 or 4, wherein the pump insert is adapted to engage a pump casing closure element which is locatable about the pump shaft and between the insert plate and the pump casing.

6. A pump insert as claimed in claim 5, wherein the closure element is locatable directly between the pump insert and the pump casing.

7. A pump insert as claimed in claim 5, wherein the closure element is locatable between the pump insert and a pump casing adaptor plate, wherein the pump casing adaptor plate is secured to the pump casing.

8. A pump insert as claimed in any one of claims 2 to 7, wherein the pump closure element defines a portion of a pump shaft sealing arrangement.

9. A pump insert as claimed in claim 8, wherein the pump closure element defines a portion of a pump shaft sealing arrangement.

10. A pump insert as claimed in claim 8, wherein the pump closure element defines a portion of a pump suction branch sealing arrangement.

11. A pump insert as claimed in any preceding claim, wherein the pump insert is adapted to be located adjacent a suction branch of a pump casing.

12. A pump insert as claimed in claim 11, wherein the pump insert provides a flow path between the suction branch of a pump casing and a pump impeller.

13. A pump insert as claimed in any preceding claim, wherein the pump insert is adapted to be coupled directly with the casing by the inter-engaging profiled coupling arrangement.

14. A pump insert as claimed in any one of claims 1 to 12, wherein the pump insert is adapted to be coupled with a casing adaptor plate by the inter-engaging profiled coupling arrangement, with the casing adaptor plate being secured to the casing.

15. A pump insert as claimed in any preceding claim, wherein the pump insert is firmly secured with the pump

casing by the inter-engaging profiled coupling arrangement.

16. A pump insert as claimed in any one of claims 1 to 14, wherein the pump insert is adapted to be loosely coupled with the pump casing by the inter-engaging profiled coupling arrangement, and the pump insert adapted to be firmly secured in place within the pump casing when the pump is fully assembled.

17. A pump insert as claimed in any preceding claim, wherein the inter-engaging profiled coupling arrangement comprises at least one coupling element connected to the pump insert and at least one coupling element connected to the pump casing, wherein the respective coupling elements are complementary and are adapted to be engaged to couple the pump insert with the pump casing.

18. A pump insert as claimed in claim 17, wherein the coupling elements are complementary teeth.

19. A pump insert as claimed in claim 18, wherein one coupling element is a tooth, and the other coupling element is a complementary slot adapted to receive the tooth.

20. A pump insert as claimed in claim 17, 18 or 19, wherein a plurality of coupling elements are provided.

21. A pump insert as claimed in any one of claims 17 to 20, wherein the coupling elements of the pump insert are integrally formed therewith.

22. A pump insert as claimed in any one of claims 17 to 20, wherein the coupling elements of the pump insert are formed separately of and subsequently connected to the pump insert.

23. A pump insert as claimed in any one of claims 17 to 22, wherein the coupling elements of the pump casing are integrally formed therewith.

24. A pump insert as claimed in any one of claims 17 to 22, wherein the coupling elements of the pump casing are formed separately and subsequently connected to the pump casing.

25. A pump insert as claimed in claim 24, wherein the coupling elements of the pump casing are integrally formed with a pump casing adaptor plate with the adaptor plate being secured to the pump casing.

26. A pump insert as claimed in any one of claims 17 to 25, wherein the coupling elements of both the pump insert and the pump casing are located on and extend from a respective element support surface of the pump casing and pump insert.

27. A pump insert as claimed in claim 26, wherein the coupling elements of the pump casing and the pump insert extend from their respective element support surface in a radial direction.

28. A pump insert as claimed in claim 26 or 27, wherein the coupling elements of the pump casing pump insert extend in opposite radial directions from the respective element support surfaces.

29. A pump insert as claimed in any one of claims 17 to 28, wherein each coupling element of the pump insert is adapted to slidably engage a respective coupling element of the pump casing.

30. A pump insert as claimed in any one of claims 17 to 29, wherein each coupling element of the pump insert includes an engaging surface adapted to engage a corresponding engaging surface of a respective coupling element of the pump casing.

31. A pump insert as claimed in claim 30, wherein each engaging surface of each coupling element of the pump casing and pump insert defines a wedge profile.

32. A pump insert as claimed in any one of claims 17 to 31, wherein the pump insert is coupled with the pump casing by rotationally misaligning the coupling elements of the pump insert and the pump casing, bringing together the pump insert and pump casing, and rotating the pump insert with respect to the pump casing to cause sliding engagement of the coupling elements of the pump casing and pump insert respectively.

33. A pump insert as claimed in any one of claims 17 to 31, wherein the coupling elements of the pump insert is engaged with the coupling elements of a pump casing adaptor plate, which adaptor plate subsequently being secured to the pump casing.

34. A pump insert as claimed in any one of claims 17 to 31, wherein the coupling elements of the pump casing and pump insert are rotationally aligned, as required, with

the pump casing and pump insert being brought together in the required fashion to engage the coupling elements.

35. A pump insert as claimed in any preceding claim, wherein the pump insert comprises an annular portion and a cylindrical portion, wherein the cylindrical portion extends substantially perpendicular from an outer surface of the annular portion.

36. A pump insert as claimed in claim 35 when dependent on claim 26, wherein the cylindrical portion defines the coupling element support surface of the pump insert.

37. A pump insert as claimed in any preceding claim, wherein the pump insert is adapted for use on both lined and unlined pumps.

38. A pump insert as claimed in any preceding claim, wherein the inter-engaging profiled coupling arrangement is a bayonet type fitting.

39. A pump insert as claimed in any preceding claim, wherein the pump insert plate is adapted for use with a centrifugal pump.

40. A method of assembling a portion of a pump including, at least, a casing having a coupling element, a pump insert having a complementary coupling element, said method comprising the steps of:

aligning the coupling element of the pump insert with the coupling element of the pump casing; and

causing relative rotational motion of the pump insert and the casing to cause the complementary coupling

elements to engage and couple the pump insert with the casing.

41. A method of assembling a portion of a pump as claimed in claim 40, wherein the pump insert is loosely coupled with the pump casing by engagement of the coupling elements.

42. A method of assembling a portion of a pump as claimed claim 40 or 41, wherein the method comprises the steps of aligning the coupling elements of the pump insert with those of a pump casing adaptor plate and rotating the pump insert with respect to the adaptor plate to cause the coupling elements to engage, wherein the adaptor plate is subsequently secured to the pump casing.

43. A method of assembling a portion of a pump according to claim 40, 41 or 42, wherein the method further comprises the step of locating a pump casing closure plate between the pump casing and the pump insert prior to engaging the complementary coupling elements of the casing and insert plate.

44. A method of assembling a portion of a pump as claimed in claim 43, wherein the closure plate is located between the pump casing and the pump insert prior to the complementary coupling elements being engaged.

45. A method of assembling a portion of a pump as claimed in claim 43 or 44, wherein the closure plate is located between the casing and the pump insert when used in a lined pump having a split casing, such that the method involves the steps of locating a first portion of

a pump casing about a shaft, locating a closure plate and a pump insert about the shaft with the closure plate located between the pump insert and pump casing, and engaging the complementary coupling elements to couple the pump insert with the casing first portion and secure the closure plate between the pump insert and casing.

46. A method of assembling a portion of a pump as claimed in claim 45, wherein the closure plate is loosely secured between the pump insert and the casing.

47. A method of assembling a portion of a pump as claimed in claim 45 or 46, wherein the method further comprises the steps of locating a pump liner within the first portion of the casing and against the pump insert, and securing a second portion of the casing to the first portion such that the liner is forced against the pump insert resulting in the coupling elements being at least partially separated and the pump insert being clamped between the liner and the closure plate, and the closure plate being clamped between the pump insert and the first portion of the pump casing.

48. A method of assembling a portion of a pump as claimed in claim 43 or 44, wherein the closure plate is located between a pump casing adaptor plate and the pump insert when used in an unlined pump, such that the method involves the steps of locating the adaptor plate about a pump shaft, locating the closure plate and the pump insert about the pump shaft with the closure plate being located between the adaptor pate and the pump insert, and engaging the complementary coupling elements to couple the pump insert with the adaptor plate and secure the closure plate between the pump insert and adaptor.

49. A method of assembling a portion of a pump as claimed in claim 48, the method further comprises the step of securing a pump casing to the adaptor plate such that the closure plate forces the pump insert against the casing resulting in the coupling elements being separated and the pump insert being clamped between the casing and the closure plate, and the closure plate being clamped between the pump insert and the pump casing adaptor plate.

50. A method of assembling a portion of a pump as claimed in claim 40, 41 or 42, wherein the pump insert is coupled by the complementary coupling elements with a second portion of a split pump casing prior to the second portion of the pump casing being secured to the first casing portion.

51. A pump closure assembly comprising:

a pump insert located about a pump shaft and coupled with a pump casing by an inter-engaging profiled coupling arrangement, wherein an inner surface of the pump insert defines a portion of a pump volute; and

a pump casing closure element located about the pump shaft, wherein a portion of the pump casing closure element is secured against a portion of an outer surface of the pump insert.

52. A pump comprising a pump insert having an inner surface which in use defines a portion of a pump volute, wherein said pump insert is adapted to be coupled with a pump casing by an inter-engaging profiled coupling arrangement.